

*ABSTRACT OF THE DISCLOSURE*

A spin-on glass (SOG) composition and a method of forming a silicon oxide layer utilizing the SOG composition are disclosed. The method includes coating on a  
5 semiconductor substrate having a surface discontinuity, an SOG composition containing perhydropolysilazane having a compound of the formula  $-(\text{SiH}_2\text{NH})_n-$  wherein  $n$  represents a positive integer, a weight average molecular weight within the range of about 4,000 to 8,000, and a molecular weight dispersion within the range of about 3.0 to 4.0, to form a planar SOG layer. The SOG layer is converted to a silicon oxide layer with a  
10 planar surface by curing the SOG layer. Also disclosed is a semiconductor device made by the method.